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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,359	04/02/2004	Su Lin Oon	70040110-1	2554

7590 02/13/2007  
AGILENT TECHNOLOGIES, INC.  
Legal Department, DL 429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER
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LOUIE, WAI SING

ART UNIT	PAPER NUMBER
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2814

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/13/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/817,359

Applicant(s)

OON ET AL.

Examiner

Wai-Sing Louie

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4,6-10,14,16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-10,14,16 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Mueller-Mach et al. (US Pub. 2003/0006702).

With regard to claim 1, Mueller-Mach et al. disclose a phosphor light-emitting device (paragraph [0021] et seq. and fig. 3) comprising:

- A blue light-emitting device 12 that emits blue light with peak wavelength 470 nm (paragraph [0032]);
- An epoxy material 38 placed over the light-emitting device 12 (paragraph [0032]), the epoxy material including:
  - A first type phosphor 40, where the first type of phosphor, when excited, emits red light (paragraph [0040]);
  - A second type phosphor 22, where the second type of phosphor, when excited, emits yellow light (paragraph [0040]).

With regard to claim 4, in addition to the limitations disclosed in claim 1 above, Mueller-Mach et al. disclose an optical dome 24 covering the epoxy 38 (fig. 3).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 6, 9-10, 14, 16, and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller-Mach et al. (US Pub. 2003/0006702) in view of Brunner et al. (US Pub. 2004/0188697).

With regard to claims 3 and 16, Mueller-Mach et al. disclose the light-emitting device is a blue light-emitting diode (paragraph [0032]) and the yellow phosphor is YAG:Ce (paragraph [0036]), but do not disclose the yellow is  $\text{Tb}_3\text{Al}_5\text{O}_{12}:\text{Ce}$  or  $\text{Sr}(\text{Ba},\text{Ca})\text{SiO}_4:\text{Eu}$ . However, Brunner et al. disclose the yellow phosphor is  $\text{Tb}_3\text{Al}_5\text{O}_{12}:\text{Ce}$  (Brunner paragraph [0091]). Brunner et al. teach the  $\text{Tb}_3\text{Al}_5\text{O}_{12}:\text{Ce}$  phosphor has proven to be efficient phosphor (Brunner paragraph [0091]). Therefore, it would have been obvious to one of ordinary skill in the art to modify Mueller-Mach's device with the teaching of Brunner et al. to provide a  $\text{Tb}_3\text{Al}_5\text{O}_{12}:\text{Ce}$  yellow phosphor in order to have an efficient phosphor.

With regard to claims 6 and 18, in addition to the limitations disclosed in claim 3 above, Mueller-Mach et al. disclose the red phosphor is  $(\text{Ca},\text{Sr},\text{Ba})\text{Si}_5\text{N}_8:\text{Eu}^{2+}$  (paragraph [0042]).

With regard to claims 9 and 19, Mueller-Mach et al. modified by Brunner et al. disclose a printed circuit board 8 (Brunner paragraph [0072]) and a lead frame 11 and 12 (Brunner fig. 1).

With regard to claims 10 and 20, Mueller-Mach et al. modified by Brunner et al. disclose a substrate 8 (Brunner fig. 3).

With regard to claim 14, in addition to the limitations disclosed in claim 1 above, Soules et al. also disclose:

- A holding means 38 for holding a first and second type of phosphors adjacent to the LED 12 (fig. 3).

Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller-Mach et al. (US Pub. 2003/0006702) in view of Marshall et al. (US 6,513,949).

With regard to claims 7-8, Mueller-Mach et al. do not disclose a second LED. However, Marshall et al. disclose a second LED with epoxy phosphors mixture (Marshall fig. 2). Marshall et al. teach the second LED exhibits improved performance over conventional LED lighting system (Marshall col. 1, lines 6-12). Therefore, it would have been obvious at the time the invention was made to modify Mueller-Mach's device with the teaching of Marshall et al. to include second LED with epoxy phosphors mixture in order to have an improved performance hybrid lighting system. Soules et al. modified by Marshall et al. disclose a third LED with epoxy phosphors mixture (Marshall fig. 3).

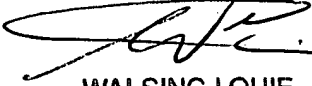
### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 3-4, 6-10, 14, 16, and 18-20 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (571) 272-1709. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
WAI-SING LOUIE  
PRIMARY PATENT EXAMINER

Wsl  
February 6, 2007.